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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/590,027	06/07/2000	Steven R. Kleiman	103.1037.01	8740
22883	7590	08/25/2004	EXAMINER	
SWERNOFSKY LAW GROUP PC P.O. BOX 390013 MOUNTAIN VIEW, CA 94039-0013			NGUYEN, CHAU T	
			ART UNIT	PAPER NUMBER
			2176	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/590,027	KLEIMAN, STEVEN R. <i>SS</i>
	Examiner	Art Unit
	Chau Nguyen	2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 July 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8, 10 and 12-26 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8, 10 and 12-26 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/22/2004 has been entered. Claims 1-8, 10 and 12-26 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 10 and 12-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldrian et al. (Goldrian), U.S. Patent No. 6,026,448, and further in view of Brock et al. (Brock), U.S. Patent No. 6,499,028.

4. As to claim 1, Goldrian discloses a method including steps of:

sending data between a client and a server using at least one of plural data buffer (Abstract and col. 2, line 58 – col. 3, line 25 and col. 11, lines 23-47)

However, Goldrian does not explicitly disclose plural data buffers of different sizes, at least some of said data buffers matched to sizes of data blocks to be transferred into or out of those data buffers; and wherein said step of sending selects one or more of said data buffers fro a data transfer responsive to a size of data blocks for said data transfer. Brock discloses a computer system includes a local node is connected with one or more remote nodes; the computer system contemplates a non-uniform memory architecture (NUMA) which performs incoming transactions and outgoing transactions between the local node and the remote nodes (Fig. 1, col. 6, line 37 – col. 7, line 31). Brock also discloses physical address space includes a plurality of memory region, and each is divided into a plurality of memory blocks, and data transaction matched in the corresponding region or memory block sizes (col. 3, lines 40-67 and col. 11, line 35 – col. 12, line 56). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brock and Goldrian to include plural data buffers of different sizes, at least some of said data buffers matched to sizes of data blocks to be transferred into or out of those data buffers; and wherein said step of sending selects one or more of said data buffers fro a data transfer responsive to a size of data blocks for said data transfer. Due to variations in memory architecture implementation, page

mechanism, caching policies, tuning or optimizing of any given NUMA system is most efficiently achieved with empirically gathered memory transaction data.

5. As to claim 2, Goldrian and Brock disclose wherein a request or a response for said data transfer includes at least some control information (Brock, col. 9, lines 11-36: transactions present on interconnect network may include data and control information); and

said steps of sending data are responsive to said control information (Brock, col. 9, lines 11-36).

6. As to claim 3, Goldrian and Brock disclose wherein a request or a response for said data transfer includes at least one memory address (Brock, col. 9, lines 11-36: transactions include physical address (memory address));

said steps of sending data are responsive to said memory address, wherein said data is read from or written to a memory in response to said memory address (Brock, col. 9, line 11-36: physical address includes transaction types field indicating read/write transaction).

7. As to claim 4, Goldrian and Brock disclose a system including a client and server (Goldrian, Abstract);
a NUMA communication link coupled to said client and server (Goldrian, col. 5, lines 12-16); and

plural data buffers of different sizes for data transfers between said client and said server using said NUMA communication link, at least some of said data buffers matched to sizes of data blocks to be transferred into or out of those data buffers (Brock, Fig. 1, col. 3, lines 40-67, col. 6, line 37 – col. 7, line 31, and col. 11, line 35 – col. 12, line 56);

wherein one or more of said data buffers is selected for a data transfer location responsive to a size of data blocks for said data transfer (Brock, Fig. 1, col. 3, lines 40-67, col. 6, line 37 – col. 7, line 31, and col. 11, line 35 – col. 12, line 56).

8. As to claim 5, Goldrian and Brock disclose a byte serial communication link, wherein said data transfer also uses said byte serial communication link (Goldrian, col. 6, lines 3-14).

9. As to claim 6, Goldrian and Brock disclose wherein either said client or server performs processing of information in said data transfer;

said processing is performed in an order convenient to both said client and server (Goldrian, col. 1, lines 16-23); and

said order is decoupled from an order of said data transfer (Goldrian, col. 1, lines 16-23 and col. 2, line 58 – col. 3, line 25).

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10. As to claim 7, Goldrian and Brock disclose wherein said data transfer is responsive to control information in a request or a response for said data transfer (Brock, col. 9, lines 11-36).

11. As to claim 8, Goldrian and Brock disclose wherein said data transfer is responsive to a request or a response for said data transfer (Goldrian, Abstract, col. 5, lines 12-16 and col. 7, lines 1-29).

12. As to claim 10, Goldrian and Brock disclose wherein said one or more data buffers also is selected responsive to control information in a request or a response for said data transfer (Brock, col. 9, lines 11-36).

13. As to claims 12, 21, and 25-26, Goldrian discloses a system including a server, said server having a memory including a client communication region and data transfer region, said data transfer region having plural data buffers (Abstract and col. 2, line 58 – col. 3, line 25 and col. 11, lines 23-47);

a remote DMA communication link coupled to said data transfer region (Goldrian, Abstract, and col. 8, line 40 – col. 9, line 49) ;

wherein said client communication region includes information regarding a data transfer into or out of said data transfer region (Goldrian, Abstract, and col. 8, line 40 – col. 9, line 49);

However, Goldrian does not explicitly disclose data buffers of different sizes for data transfers to and from a client, at least some of said data buffers

matched to different sizes of data blocks to be transferred into or out of those data buffers and wherein one or more of said server data buffers is selected for a data transfer responsive to a size of data block for said transfer. Brock discloses a computer system includes a local node is connected with one or more remote nodes; the computer system contemplates a non-uniform memory architecture (NUMA) which performs incoming transactions and outgoing transactions between the local node and the remote nodes (Fig. 1, col. 6, line 37 – col. 7, line 31). Brock also discloses physical address space includes a plurality of memory region, and each is divided into a plurality of memory blocks, and data transaction matched in the corresponding region or memory block sizes (col. 3, lines 40-67 and col. 11, line 35 – col. 12, line 56). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brock and Goldrian to include plural data buffers of different sizes, at least some of said data buffers matched to sizes of data blocks to be transferred into or out of those data buffers; and wherein said step of sending selects one or more of said data buffers fro a data transfer responsive to a size of data blocks for said data transfer. Due to variations in memory architecture implementation, page mechanism, caching policies, tuning or optimizing of any given NUMA system is most efficiently achieved with empirically gathered memory transaction data.

14. As to claim 13, Goldrian and Brock disclose a byte serial communication link coupled to said client communication region (Goldrian, col. 6, lines 3-14).

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15. As to claim 14, Goldrian and Brock disclose a processing element is said server coupled to said data transfer region, said processing element responsive to a request from a client or a response to a client (Goldrian, col. 9, line 64 – col. 10, line 5).

16. As to claim 15, Goldrian and Brock disclose a processing element in said server coupled to said data transfer region, said processing element responsive to control information in said client communication region (Goldrian, col. 9, line 64 – col. 10, line 5).

17. As to claims 16 and 22-23, Goldrian and Brock disclose a processing element in said server coupled to said data transfer region, said processing element using information if said data transfer region independently of said remote DMA communication link (Goldrian, col. 4, lines 1-26 and col. 9, line 64 – col. 10, line 5).

18. As to claim 17, Goldrian and Brock disclose a request from a client or a response to said client having information regarding a location within data transfer region (Brock, col. 9, line 11-36: physical address includes transaction types field indicating read/write transaction).

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19. As to claim 18, Goldrian and Brock disclose wherein said client communication region stores a request from a client or a response to said client (Goldrian, col. 7, lines 1-29).

20. As to claim 19, Goldrian and Brock disclose wherein said data transfer region stores a data transfer to or from a client (Goldrian, Abstract, and col. 2, lines 26-57).

21. As to claim 20, Goldrian and Brock disclose wherein said remote DMA communication link includes a NUMA communication link (Goldrian, col. 4, lines 1-19 and col. 7, lines 15-29).

22. As to claim 24, Goldrian and Brock disclose wherein said client includes a database server (Goldrian, col. 4, lines 1-19).

Response of Arguments

Applicant's arguments and amendments filed on 07/22/2004 have been fully considered but they are not deemed fully persuasive. Applicant's arguments with respect to claims 1, 4, 12, 21, and 25-26 have been considered but are moot in view of the new ground(s) of rejection as explained above, necessitated by Applicant's substantial amendment (i.e., plural data buffers of different sizes, at least some of said data buffers matched to sizes of data blocks to be transferred into or out of those data buffers) to the claims which significantly affected the scope thereof.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (703) 305-4639. The Examiner can normally be reached on Monday-Friday from 8:00 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Feild, can be reached at (703) 305-9792.

The fax phone numbers for the organization where this application is assigned are as follows:

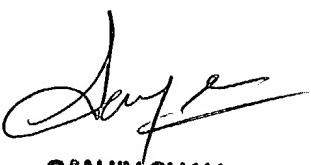
(703) 872-9306 (After Final Communications only)

(703) 872-9306 (Official Communications)

(703) 746-7240 (for Official Status Inquiries, Draft Communications only)

Inquiries of a general nature relating to the general status of this application or proceeding should be directed to the 2100 Group receptionist whose telephone number is (703) 305-3900.

Chau Nguyen
Patent Examiner
Art Unit 2176



SANJIV SHAH
PRIMARY EXAMINER

SANJIV SHAH
PRIMARY EXAMINER